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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,526	04/27/2001	Robert Woolley Brunson	4750-000002	3732

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EXAMINER	
IP, SIKYIN	

ART UNIT	PAPER NUMBER
1742	

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/844,526	BRUNSON, ROBERT WOOLLEY	
	Examiner	Art Unit	
	Sikyin Ip	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-30* is/are pending in the application.

4a) Of the above claim(s) *9-24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 26-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 26 is indefinite because there is no step j in claim 25.

Claim Rejections - 35 USC § 103

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 25-30 are rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5865913 to Paulin et al in view of USP5447035 to Workman et al and further teaching of acknowledged prior art admission.

Paulin in col. 1, line 18 to col. 2, line 15 and Figure1 discloses steps of cryogenic heat treating a quantity of components by gradually lower the temperature of said quantity of components to –300 °F by liquid nitrogen, holding said quantity of components at –300 °F for a predetermined time according to the total mass of the processing load and material treated (col. 3, lines 55-59), gradually raising the temperature of said quantity of components to ambient temperature, tempering said quantity of components at 300 °F, gradually lower the temperature of said quantity of components to ambient temperature, and including steps repeatedly tempering in order to reduce residual stresses in the metal structure that has caused warpage of the metal structure (col. 2, lines 54-58). Paulin does not disclose the heat treated component is a brake rotor. Workman in col. 3, lines 15-50 discloses the substantially same cryogenic thermal cycling processing steps as Paulin could improve wear resistance for brake pad and the like article (col. 1, lines 9-23). The acknowledged prior art admission in [0005] of instant specification discloses brake rotor has same warpage problem due to heating/cooling cycles as Paulin (col. 2, lines 54-58). Paulin specifically and expressly teaches a method of cryogenic heat treating metal structure in order to eliminate residual stresses in metal structure in order to avoid warpage of the metal structure (col. 2, lines 54-58). Workman discloses it is known to cryogenic heat treating brake pad and like articles. The acknowledged prior art admission in [0005] discloses that steps to avoid brake rotor warpage is desired. In order to avoid brake rotor warpage, ordinary skill artisan would use the cryogenic heat treating method as taught by Paulin because

as is evinced by Workman cryogenic heat treatment successively improves brake pad and like article properties.

With respect to repeatedly post temper cycles, that a two step combination and two obvious process steps is unpatentable when each lends properties to the final product known to be produced when the step is practiced alone, in the absence of evidence of coaction between the steps which produce an obvious result. In re Fortress (CCPA 1966) 369 F2d 1009, 152 USPQ 13.

With respect to the recited heat treatment conditions are being a function of the cross sectional area of brake components, which would have been inherently predetermined at static phase (Paulin col. 3, lines 53-58).

The limitation as recited in claim 27 reads on an ambient temperature.

The limitation as recited in claim 29 would have been inherently done by heating step of Paulin.

Response to Arguments

Applicant's arguments filed April 18, 2005 have been fully considered but they are not persuasive.

Applicant's argument with respect to repeatedly post temper cycles is noted. But a two step combination and two obvious process steps is unpatentable when each lends properties to the final product known to be produced when the step is practiced alone, in the absence of evidence of coaction between the steps which produce an obvious result. In re Fortress (CCPA 1966) 369 F2d 1009, 152 USPQ 13.

Applicant argues that brake rotor is not taught by cited references. But, it is contemplated within ambit of ordinary skill artisan to use the method as taught by Paulin to solve the same warpage problem for brake rotor.

Applicant's argument in paragraph bridging pages 8-9 of instant remarks is noted. But, it is immaterial because there is rotor material being defined in specification or rejected claims.

Applicant argues that limitation in instant claim 28 has not been addressed. But, it is law of nature that heating temperature from instant step d (-300 °F) to instant step e (300 °F), the heating temperature has to pass –100 °F in order to get to 300 °F.

Applicant's arguments in appeal brief with respect to claims 25-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The above rejection relies on the reference(s) for all the teachings expressed in the text(s) of the references and/or one of ordinary skill in the metallurgical art would have reasonably understood or implied from the text(s) of the reference(s). To emphasize certain aspect(s) of the prior art, only specific portion(s) of the text(s) have been pointed out. Each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combination of the cited references may be relied on in future rejection(s) in view of amendment(s).

All recited limitations in the instant claims have been meet by the rejections as set forth above.

Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121 and 37 C.F.R. Part §41.37 (c)(1)(v).

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (571) 272-1241. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (571)-272-1244.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SIKYIN IP
PRIMARY EXAMINER
ART UNIT 1742

S. Ip
June 22, 2005